

Amendments to the Claims:

Please cancel Claims 5 and 7-28. Please amend Claims 1 and 6. Please add new Claims 29-44. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing:

Claim 1 (currently amended): A method of stimulating cartilage growth or repair at a site in a subject in need of such growth or repair, said method comprising the step of administering to the site a therapeutically effective amount of an agonist of the non-proteolytically activated thrombin receptor, wherein the agonist comprises a peptide represented by the following structural formula:



wherein R is a serine esterase conserved sequence.

Claim 2 (original): The method of Claim 1 wherein the site is an arthritic joint.

Claim 3 (original): The method of Claim 1 wherein the site is being treated for cartilage damage or loss.

Claim 4 (original): The method of Claim 1 wherein the site is being treated for cartilage damage or loss due to traumatic injury.

Claim 5 (canceled)

Claim 6 (currently amended): The method of Claim [[5]] 1, wherein the agonist is a peptide consists of between ~~about~~ 12 and ~~about~~ 23 amino acids.

Claims 7-28 (canceled)

- Claim 29 (new): The method of Claim 6, wherein the peptide comprises a *C*-terminal amide.
- Claim 30 (new): The method of Claim 29, wherein the serine esterase conserved sequence comprises the amino acid sequence of SEQ ID NO: 1 (Cys-Glu-Gly-Asp-Ser-Gly-Gly-Pro-Phe-Val), or a *C*-terminal truncated fragment thereof consisting of at least nine amino acids, provided that zero, one or two of the amino acids in the serine esterase conserved region are conservative substitutions of the corresponding amino acid in SEQ ID NO: 1.
- Claim 31 (new): The method of Claim 29, wherein the serine esterase conserved sequence comprises the amino acid sequence of SEQ ID NO: 2 (Cys-X₁-Gly-Asp-Ser-Gly-Gly-Pro-X₂-Val), wherein X₁ is Glu or Gln and X₂ is Phe, Met, Leu, His or Val, or a *C*-terminus truncated fragment of SEQ ID NO: 2, said fragment consisting of at least six amino acids.
- Claim 32 (new): The method of Claim 31, wherein the peptide comprises the amino acid sequence Arg-Gly-Asp-Ala (SEQ ID NO: 3).
- Claim 33 (new): The method of Claim 32, wherein the peptide comprises the amino acid sequence Arg-Gly-Asp-Ala-Cys-X₁-Gly-Asp-Ser-Gly-Gly-Pro-X₂-Val (SEQ ID NO: 4), wherein X₁ is Glu or Gln and X₂ is Phe, Met, Leu, His or Val.
- Claim 34 (new): The method of Claim 29, wherein the peptide comprises the amino acid sequence Ala-Gly-Try-Lys-Pro-Asp-Glu-Gly-Lys-Arg-Gly-Asp-Ala-Cys-Glu-Gly-Asp-Ser-Gly-Gly-Pro-Phe-Val (SEQ ID NO: 6), or is an *N*-terminal truncated fragment thereof, provided that zero, one or two amino acids at positions 1-9 in the against are conservative substitutions of the amino acid at the corresponding position of SEQ ID NO: 6.

- Claim 35 (new): The method of Claim 34, wherein the peptide is administered in a pharmaceutical composition additionally comprising an implantable, biocompatible carrier.
- Claim 36 (new): The method of Claim 35, wherein the carrier comprises a polylactic acid homopolymer, polyglycolic homopolymer or copolymer.
- Claim 37 (new): The method of Claim 29, wherein the peptide comprises the amino acid sequence Ala-Gly-Try-Lys-Pro-Asp-Glu-Gly-Lys-Arg-Gly-Asp-Ala-Cys-Glu-Gly-Asp-Ser-Gly-Gly-Pro-Phe-Val (SEQ ID NO: 6), or is an *N*-terminal truncated fragment thereof.
- Claim 38 (new): A method of stimulating cartilage growth or repair at a site in a subject in need of such growth or repair, said method comprising the step of administering to the site a therapeutically effective amount of a *C*-terminus amidated peptide of 23 amino acids comprising the sequence Ala-Gly-Try-Lys-Pro-Asp-Glu-Gly-Lys-Arg-Gly-Asp-Ala-Cys-Glu-Gly-Asp-Ser-Gly-Gly-Pro-Phe-Val (SEQ ID NO: 6).
- Claim 39 (new): A method of stimulating cartilage growth at an arthritic joint in a subject, said method comprising the step of administering to the site a therapeutically effective amount of a *C*-terminus amidated peptide of 23 amino acids comprising the sequence Ala-Gly-Try-Lys-Pro-Asp-Glu-Gly-Lys-Arg-Gly-Asp-Ala-Cys-Glu-Gly-Asp-Ser-Gly-Gly-Pro-Phe-Val (SEQ ID NO: 6).
- Claim 40 (new): A method of stimulating cartilage growth in a subject at a site being treated for cartilage loss, said method comprising the step of administering to the site a therapeutically effective amount of a *C*-terminus amidated peptide of 23 amino acids comprising the sequence Ala-Gly-Try-Lys-Pro-Asp-Glu-Gly-Lys-Arg-Gly-Asp-Ala-Cys-Glu-Gly-Asp-Ser-Gly-Gly-Pro-Phe-Val (SEQ ID NO: 6).

- Claim 41 (new): A method of stimulating cartilage growth in a subject at a site being treated for cartilage loss due to traumatic injury, said method comprising the step of administering to the site a therapeutically effective amount of a C-terminus amidated peptide of 23 amino acids comprising the sequence Ala-Gly-Try-Lys-Pro-Asp-Glu-Gly-Lys-Arg-Gly-Asp-Ala-Cys-Glu-Gly-Asp-Ser-Gly-Gly-Pro-Phe-Val (SEQ ID NO: 6).
- Claim 42 (new): A method for culturing chondrocytes *in vitro*, the improvement comprising culturing the chondrocytes in the presence of a stimulating amount of an NPAR agonist.
- Claim 43 (new): The method of Claim 42, further comprising the step of administering a therapeutically effective amount of the cultured chondrocytes to a site in a subject in need of cartilage repair or growth.
- Claim 44 (new): The method of Claim 6, wherein the peptide is unsubstituted at the C-terminus.